

Application Number 10/696,491
Response to Office Action mailed July 17, 2007

REMARKS

This submission is responsive to the Office Action dated July 17, 2007. Applicant has not amended the claims. Claims 1-7, 9-19, 21-32, 34-44, 46, 48-56, 58-65, 67-68, 70-71 remain pending.

Claim Rejection Under 35 U.S.C. § 102

The Office Action rejected claims 1-2, 4, 21-23, 26-27, 29, 43-46, 50, 51, 53, 67-68, 70-71 under 35 U.S.C. § 102(b) as being anticipated by North et al. ("Patient-Interactive, Microprocessor-Controlled Neurological Stimulation System," hereinafter "North").¹ Applicant respectfully traverses the rejection. North fails to disclose each and every feature of the claimed invention, as required by 35 U.S.C. § 102(b), and provides no teaching that would have suggested the desirability of modification to include such features.

For example, North fails to teach or disclose "sequentially displaying a plurality of two-dimensional body templates, each of the body templates illustrating a view of an external surface on a human body rotated an angle about an axis," as required by independent claim 1, or the similar requirements of independent claims 26 and 50.² Directly contrary to this requirement of the independent claims, FIG. 3 of North depicts front and back views of the human body displayed at the same time. Furthermore, the reference in the caption for FIG. 3 to "a series of color overlays...[and] sequential display of overlapping threshold data as a 'movie'" refers to the sequential display of different colored regions on the static, simultaneously-displayed front and back views of the human body. The caption for FIG. 3 does not refer to sequential display of different views of the body. The front and back views shown in FIG. 3 are displayed simultaneously.

¹ The summary of the rejection under 35 U.S.C. § 102(b) cited to two references, and more particularly recited that the rejection was based on North "in view of" Chen et al. However, the more detailed discussion of the rejected claims only referred to North. Applicant assumes that the Examiner meant to reject the claims under 35 U.S.C. § 102(b) as being anticipated by North.

² Emphasis added.

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As another example, claim 4 requires generating a second body template, which illustrates a different view of an external surface of a human body than a first template, to illustrate at least some of the portion of the surface illustrated by the first template. Claim 4 further requires that the second template illustrate at least a portion of a region that was indicated by a user on the first body template. North fails to teach or suggest these requirements of claim 4, or the similar requirements of claims 29 and 53.

FIG. 3 of North depicts only two views (front and back) of the human body. Neither FIG. 3, nor any other portion of North, suggests that either of the front or back view depicts a portion of the body surface that is also depicted by the other. Furthermore, neither FIG. 3, nor any other portion of North, suggests that a region indicated by a patient on one the front and back views is also depicted on the other of the front and back views. Accordingly, nothing in North teaches or suggests the above identified requirements of claims 4, 29 and 53.

For at least these reasons, the Office Action has failed to establish a prima facie case of anticipation of claims 1-2, 4, 21-23, 26-27, 29, 43-46, 50, 51, 53, 67-68, 70-71 under 35 U.S.C. § 102(b) by North. Withdrawal of this rejection is respectfully requested.

Claim Rejection Under 35 U.S.C. § 103

The Office Action rejected claims 3-7, 9-19, 24-25, 28-32, 34-42, 46, 48-49, 52, 54-56, 58-66 under 35 U.S.C. § 103(a) as being unpatentable over North in view of in view of Chen et al. (US 5,588,098, hereinafter "Chen"). Applicant respectfully traverses this rejection. The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested a rational reason for a person of ordinary skill in the art to arrive at the claimed invention. KSR Int'l Co. v. Teleflex, Inc., No. 04-1350, Slip op. at 14. (April 30, 2007).

First, Applicant submits that each of the claims rejected under section 103 depends from one of independent claims 1, 26 and 50. Chen does not provide any teaching that would overcome the deficiencies of North with respect to the independent claims identified above. Therefore, each of the claims rejected under section 103 is patentable over the combination of North and Chen for at least the reasons discussed above.

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Furthermore, prior to discussing some of the claims rejected under section 103 individually, Applicant provides the following comments applicable to the rejection under section 103 generally. In particular, there is no evidence of any reason that a person of ordinary skill in the art would have considered it obvious to modify the North system to replace the front and back-view human body outlines with a rotatable three-dimensional human body surface based on the teachings of Chen. Nowhere does Chen mention the human body, techniques for displaying a surface of the human body, or configuration of stimulation to treat a patient. Nor does Chen discuss any advantage or other reason for replacing multiple two-dimensional views of an object with a single, rotatable, three-dimensional image, much less for replacing the multiple two-dimensional views of the body in North with a single, rotatable, three-dimensional body image for the purpose of collecting information during configuration of stimulation. There is no teaching in Chen suggesting that North system, so modified, would continue to be satisfactory with for this purpose and provide the ease of patient use described in North.

Chen is merely describes a particular technique for manipulating three-dimensional objects, generally, on a display using a mouse. North does not disclose displaying a three-dimensional object, and instead discloses displaying multiple two-dimensional views simultaneously. North is also specifically directed to providing an input medium for patient feedback during configuration of therapeutic stimulation. Therefore, Applicant suggests that a person of ordinary skill in the art would not have turned to Chen for any modification of the North system, much less those proposed in the Office Action.

The reason cited in the Office Action for modification of North in view of Chen is to provide "a clear and unobstructed view." This rationale is illogical because the views provided by the North system are not obstructed. There is no teaching in North or Chen suggesting that multiple views as provided by North are "obstructed," and that providing a rotatable, three-dimensional object would alleviate such obstruction. Thus, a person of ordinary skill in the art would not have considered it obvious to modify the North system in based on the teachings of Chen for the reason cited in the Office Action.

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Claims 6, 31 and 56

North and Chen fail to disclose or suggest commands received via at least one direction arrow, as required by each of claims 6, 31 and 56. The Office Action cited FIG. 4 of Chen as teaching this limitation. However, although FIG. 4 includes arrows, Chen does not suggest that commands are received via the arrows. Instead, the arrows are merely included in FIG. 4 to illustrate possible manipulation of an object by, for example, grabbing a corner of the bounding box 405.

Claims 10, 34 and 55

North and Chen fail to teach or suggest receiving commands via a display, e.g., a touchscreen, to sequentially display body templates via the display, as required by claims 10, 34 and 55. The Office Action cited FIG. 10 of Chen as teaching this requirement of claims 10, 34 and 55. However, FIG. 10 appears to have no relevance to this requirement. Instead, FIG. 10 depicts "transformation relationships." In any event, Chen teaches receiving input via a mouse or keyboard, and not a display.

Claims 12, 37 and 59

North and Chen fail to teach or suggest mapping user input to a body surface coordinate system that describes the external surface of the human body, as required by claim 12, or the similar requirements of claims 37 and 59. The Office Action cited columns 8-10 of Chen as teaching these requirements. However, Chen does not even mention the human body, much less a body surface coordinate system that describes the external surface of the human body.

Claims 13, 14, 16, 17, 38, 39, 41, 42, 60, 61 and 63

Again, Chen does not even mention the human body, and therefore fails to provide any teaching that would have suggested modification of North to meet the requirements of claims 13, 14, 38, 39, 60 and 61 relating to a body surface coordinate system.

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Claims 15, 18, 40, 43, 62 and 64

As recognized in the Office Action, both North and Chen fail to teach or suggest “generating a three-dimensional coordinate system by applying one of a linear interpolation, a higher-order interpolation, or a spline technique to determine valid body coordinates,” as required by claims 15, 40 and 62, or “generating a two-dimensional coordinate system by mathematically peeling and flattening a representation of the external surface of the human body, and indicating continuity at edges of the body surface,” as required by claims 18, 43 and 64. In the absence of any documentary evidence of these features, the Office Action relied on Official Notice that these features were well known in the art at the time of Applicant’s invention.

Applicant respectfully traverses the reliance on Official Notice. Applicant submits that “generating a three-dimensional coordinate system by applying one of a linear interpolation, a higher-order interpolation, or a spline technique to determine valid body coordinates,” and “generating a two-dimensional coordinate system by mathematically peeling and flattening a representation of the external surface of the human body, and indicating continuity at edges of the body surface,” are not capable of instant and unquestionable verification as having been well-known at the time of Applicant’s invention. Applicant requests that any subsequent Action include documentary evidence supporting the assertion that these features were well known, or withdrawal of these rejections.

Claims 19, 44 and 65

Claim 19 recites projecting a two-dimensional coordinate system onto a three-dimensional frame representation of the external surface of the human body. Claims 44 and 65 recite similar features. North and Chen fail to suggest these features of Applicant’s claims. The Office Action cited FIGS. 2 and 3 of North as teaching these features. However, FIGS. 2 and 3 do not even depict a three-dimensional frame representation of the external surface of the human body, much less have anything to do with projecting a two-dimensional coordinate system onto such a representation. FIGS. 2 and 3 of North depict two, two-dimensional views of the human body; not a three-dimensional frame representation of the external surface of the human body.

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For at least these reasons, the Office Action failed to make a prima facie case for obviousness of claims 3-7, 9-19, 24-25, 28-32, 34-42, 46, 48-49, 52, 54-56, 58-66. Applicant respectfully requests withdrawal of these rejections.

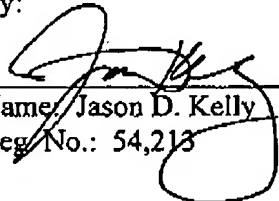
CONCLUSION

All claims in this application are in condition for allowance. Applicant respectfully requests reconsideration and prompt allowance of all pending claims. Please charge any additional fees or credit any overpayment to deposit account number 50-1778. The Examiner is invited to telephone the below-signed attorney to discuss this application.

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